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NOTES ON GEOGRAPHIC DISTRIBUTION

Amphibia, Anura, Strabomantidae, *Geobatrachus walkeri* (Ruthven, 1915): Altitudinal extension and new habitat, Colombia

Luis Alberto Rueda-Solano * and Fernando Vargas-Salinas

Universidad de Los Andes, Departamento de Ciencias Biológicas. Carrera 1Este # 18A-10, Edificio J, laboratorio 305. Bogotá D.C., Colombia.
* Corresponding author. E-mail: *biologoluisrueda@gmail.com*

ABSTRACT: In September 2008 we registered the frog *Geobatrachus walkeri* at ~ 3500 m elevation in the Sierra Nevada de Santa Marta, an isolated mountain range in the Caribbean Colombian, South America. Our record expands the knowledge of the altitudinal distribution of this species on 700 m and constitutes the first observation in páramo habitat.

Geobatrachus walkeri (Ruthven, 1915) is a small frog, only member of a monotypic amphibian genus of the family Strabomantidae (Frost 2010). This species is endemic to cloud forest habitats between 1,500 and 2,870 m in northwestern and western slopes of Sierra Nevada de Santa Marta (Ruiz-Carranza *et al.* 1996; Acosta-Galvis 2000), an isolated mountain range in Caribbean Colombia with wet montane habitats surrounded by dry forests in adjacent lowlands (Figure 1). Here, we provide new data that increase the altitudinal range of *G. walkeri* in ~ 700 meters in Sierra Nevada of Santa Marta and the first records for *páramo* habitat.

Between 13-22 September 2008, a field expedition was conducted at Lagunas de Sevilla (10°54'03" N, 73°55'04" W, *ca.* 3,500 m), Serranía de Cebolleta, western slope of Sierra Nevada of Santa Marta, municipality of San Pedro, Colombia. Lagunas de Sevilla is dominated by rocky and the shrub vegetation characteristic of *páramo* habitat. Extensive diurnal hikes were made across an area of *ca.* 4.5 km^2 looking for amphibians in diverse microhabitats (*e.g.*, rocks, shrub, ground) near and far from lakes and streams. We recorded a calling individual of *Geobatrachus walkeri* (Figure 2A) at 5 cm height from ground in a small shrub

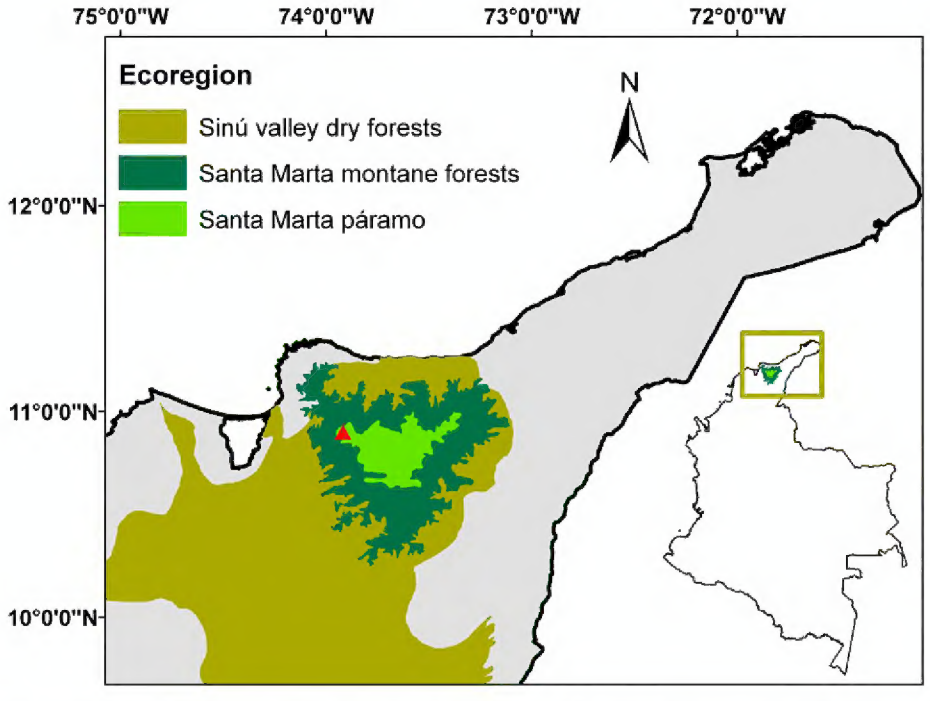

FIGURE 1. Geographic location and predominate ecosystems in the Sierra Nevada de Santa Marta and lowlands around, department of Magdalena, Colombia. Red triangle points the location of the new record for *Geobatrachus walkeri*.

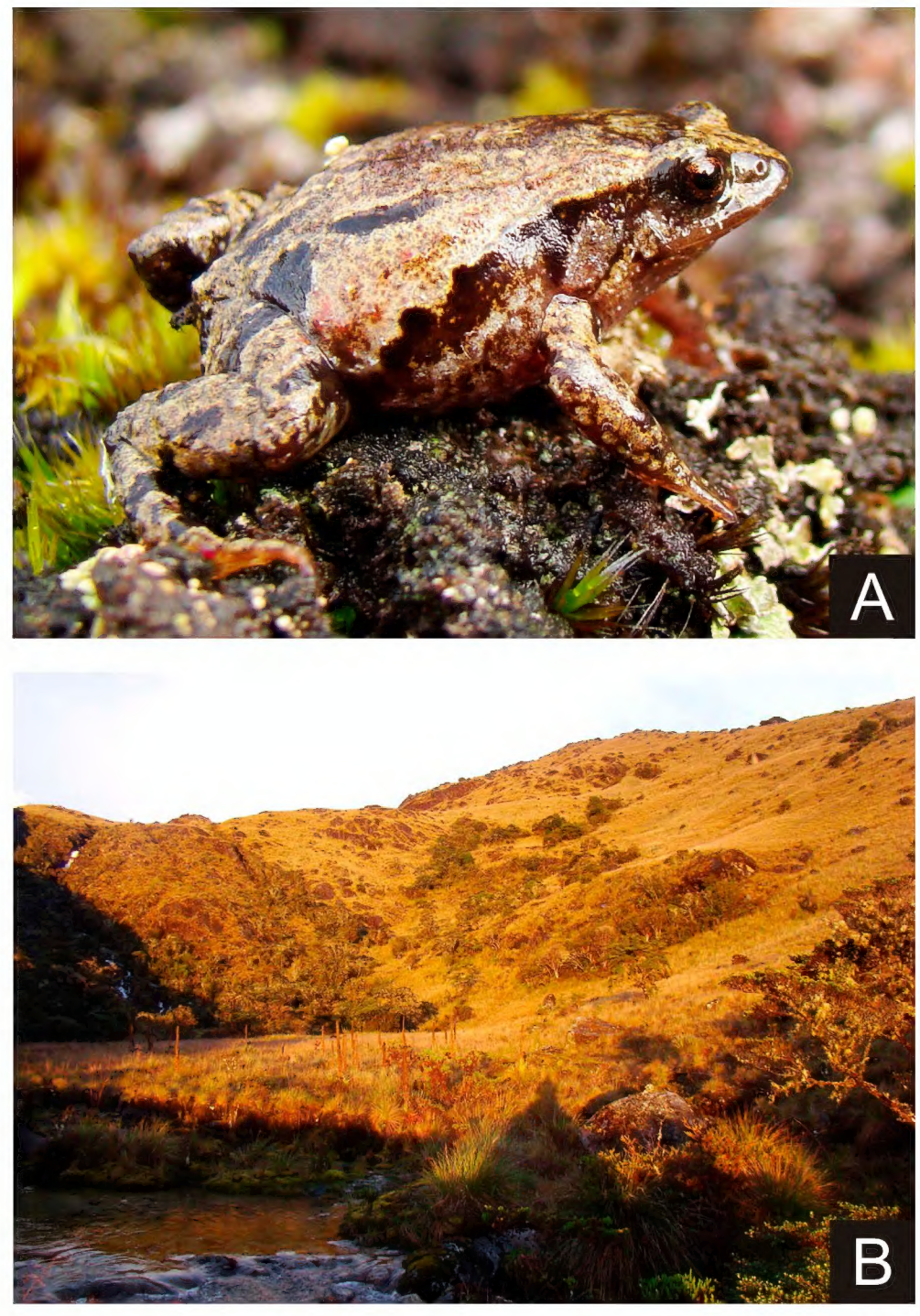

FIGURE 2. Photograph of *Geobatrachus walkeri* (A) and its páramo habitat (B) at Lagunas de Sevilla, Serranía de Cebolleta, Sierra Nevada of Santa Marta, Colombia. Photos by Luis Alberto Rueda-Solano.

alongside a stream (Figure 2B). This visual and additional auditory samplings allowed us to identify the microhabitat of *G. walkeri*, which consisted in low herb monticules, 0 to 10 m away from streams. No voucher of this species was collected. Other anurans species endemic to Sierra Nevada de Santa Marta were also recorded in this páramo area, *i.e.*, *Atelopus carrikeri* Ruthven, 1916 (Rueda-Solano 2008), *Pristimantis ruthveni* Lynch and Ruíz-Carranza, 1985, and *P. cristinae* Lynch and Ruiz-Carranza, 1985 (Rueda-Solano and Vargas-Salinas 2010).

This record of *Geobatrachus walkeri* in a new habitat at a much higher elevation than previously reported is important because it increases the conservation opportunities of an endangered amphibian monotypic genus (Ramirez-Pinilla *et al.* 2004). In addition, our record supports the necessity of further ecological, biogeographical and conservation studies of the amphibians in the Sierra Nevada de Santa Marta, especially for the 17 endemic species (Ruiz-Carranza *et al.* 1996; Lynch *et al.* 1997).

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Literature Cited

Acosta-Galvis, A.R. 2000. Ranas, Salamandras y Caecilias (Tetrapoda:Amphibia) de Colombia. *Biota Colombiana* 1(3): 289-319.

Frost, D.R. 2010. *Amphibian Species of the World: an Online Reference. Version 5.4 (8 April, 2010)*. Electronic Database accessible at http://research.amnh.org/vz/herpetology/amphibia/. American Museum of Natural History, New York, USA. Captured on 2 August 2010.

Lynch J.D., P.M. Ruiz-Carranza and M.C. Ardila-Robayo. 1997. Biogeographic Patterns of Colombian Frogs and Toads. *Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales* 21(80): 237-248.

Ramírez Pinilla, M.P., M. Osorno-Muñoz, J.V. Rueda, A. Amézquita and M.C. Ardila-Robayo. 2004. *Geobatrachus walkeri*. *In* IUCN 2009. *IUCN Red List of Threatened Species. Version 2009.2*. Electronic database accessible at www.iucnredlist.org. Captured on 26 February 2010.

Rueda-Solano, L.A. 2008. Colorful Harlequin frog re-discovered in Colombia. *FrogLog, Newsletters of the UICN/SSC Amphibian Specialist Group* 86: 1.

Rueda-Solano, L.A. and F. Vargas-Salinas. 2010. *Pristimantis cristinae* and *P. ruthveni* Lynch & Ruiz-Carranza, 1985 – increase of altitudinal distribution and páramo habitat use in the Sierra Nevada de Santa Marta, Colombia. *Herpetozoa* 23(1/2): 78-90.

Ruiz-Carranza, P.M., M.C. Ardila-Robayo and J.D. Lynch. 1996. Lista actualizada de la fauna de Amphibia de Colombia. *Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales* 20(77): 365-415.

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